

# **EXHIBIT L**

## Redacted-Privileged

**From:** William Melsheimer <William\_Melsheimer@txwd.uscourts.gov>

**Date:** Monday, October 4, 2021 at 8:24 AM

**To:** Max Ciccarelli <max@CiccarelliLawFirm.com>

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**Subject:** RE: Align v. 3Shape - 6:20-cv-979 - Claim construction summary, and dispute as to one term

Counsel:

The Court agrees with 3Shape that “depth data” is construed according to its plain and ordinary meaning, except that depth data and color data must be **obtained** independently, but may be obtained simultaneously. Below is a chart reflecting this construction.

3Shape’s Position	Align’s Position	Court’s Construction
“Depth data” is construed according to its plain and ordinary meaning, except that depth data and color data must be <b>obtained</b> independently, but may be obtained simultaneously.	“Depth data” is construed according to its plain and ordinary meaning, except that depth data and color data must be <b>determined</b> independently, but may be obtained simultaneously.	“Depth data” is construed according to its plain and ordinary meaning, except that depth data and color data must be <b>obtained</b> independently, but may be obtained simultaneously.

Thanks,  
Jeff Melsheimer



**Jeff Melsheimer**

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**Sent:** Wednesday, September 22, 2021 4:46 PM

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**Subject:** Align v. 3Shape - 6:20-cv-979 - Claim construction summary, and dispute as to one term

**CAUTION - EXTERNAL:**

Jeff,

At the August 20, 2021 *Markman* hearing, the Court asked the parties to confer about the best way to articulate the Court's ruling on Issue A to the jury. (*Markman* Tr. at 5:3-4; 33:22-34:5). The Parties agree that the Court's ruling is best presented as part of the construction of the term "depth data," which appears in all the relevant claims. Thus, incorporating the Court's ruling into the construction of "depth data" will resolve the issue without the need to separately construe each of claim terms A.1 through A.7.

The parties have not been able to reach agreement, however, with respect to one specific word of that construction. The disagreement is highlighted below:

<b>3Shape's Position</b>	<b>Align's Position</b>
"Depth data" is construed according to its plain and ordinary meaning, except that depth data and color data must be <b>obtained</b> independently, but may be obtained simultaneously.	"Depth data" is construed according to its plain and ordinary meaning, except that depth data and color data must be <b>determined</b> independently, but may be obtained simultaneously.

The Parties' respective positions are set forth below.

### **3SHAPE'S POSITION**

**Summary:** The parties briefed and argued whether depth data and color data must be "**obtained** independently" due to statements Align made during prosecution of its patents. The Court rejected Align's request to apply the plain and ordinary meaning with no disclaimer, but used the words "**determined** independently" instead of "**obtained** independently" in its oral ruling. The introduction of the word "**determined**"—whether done intentionally by the Court or not—is now causing disagreement between the parties as to the extent of the prosecution history disclaimer. 3Shape believes that using the same word in the construction as Align used in its prosecution statements—"obtained"—will eliminate confusion between the parties and prevent Align from arguing that it may recapture disclaimed scope.

**Explanation:** The Court began the *Markman* hearing stating that it would decide the issue of "whether color data and depth data are *obtained* independently." (*Markman* Tr. at 5:3-4 (emphasis added).) Likewise, the Court's preliminary order on claim construction stated that it would decide the issue of whether "color data and depth data must be *obtained* independently of one another."

Both parties briefed and presented the issue of the independence of color and depth data to the Court using the term "obtained." Align's Responsive Claim Construction Brief, for example, includes an introduction section with the title "Terms Relating to Whether Depth Data is *Obtained* Independently of Color Data." (Dkt. 172 at 2 (emphasis added); *see also* Dkt. 120 at 4 (3Shape's Brief presenting same issue).) Likewise, the demonstrative exhibits used by both parties at the *Markman* hearing consistently used the term "obtained" or "obtaining" in discussing the issue. (*See, e.g.*, 3Shape Demonstrative Slides at 7-28; Align's Demonstrative Slides at 3, 17-18, 21-24.) Neither party briefed nor argued that the word "determined" should be used instead of the word "obtained" in the Court's construction.

At the conclusion of the parties' *Markman* arguments, however, the Court ruled on the record that "depth data and color data ... must be **determined** independently." (*Markman* Tr. at 33:17-22.) Through discussions among counsel, it has become apparent that Align now seeks to use the Court's phrasing to avoid the prosecution history disclaimer, an issue on which the Court seems to have found in 3Shape's favor at the *Markman* hearing.

Align is using the Court's change in wording to try to defeat the prosecution history disclaimer by arguing that a difference in meaning between "obtained" and "determined" narrows the scope of the disclaimer found by the Court. Align did not argue this alleged difference in meaning in briefing or during the hearing, and the new arguments that Align sets forth below are not consistent with either the specification or file history. By using the words that were used by Align in the prosecution history—"obtained independently"—the Court will stay true to the prosecution history and avoid the gamesmanship that Align appears to be engaging in.

3Shape understands that the Court prefers to resolve some of the more nuanced claim construction issues after expert reports, and the parties may well need the Court's assistance at that time. But 3Shape believes the Court has already resolved the prosecution history disclaimer issue and that it is better to stick to the word that Align used during prosecution than to introduce additional complications with a new word that was not briefed or argued.

#### **ALIGN'S POSITION**

The Court heard extensive argument about the relationship between "depth data" and "color data" at the August 20 *Markman* hearing and, after considering the issue over a break, ruled:

With regard to the earlier issue we took up with depth data and color data, the Court is going to find that they must be **determined** independently. The Court will note that that does not preclude the possibility that they can be **obtained** simultaneously. They can be.

*Markman* Tr. at 33:17-21 (emphases added).

Align's language for the final construction of "depth data" is word-for-word what the Court ruled. 3Shape, on the other hand, seeks to replace the Court's use of the word "determined" with the word "obtained," effectively asking for reconsideration of the Court's ruling. While the Court initially said it would look at whether the depth data is obtained independently, after hearing extensive argument and conferring with the Court's clerks, the Court specifically held that depth and color data must be "determined" independently, while at the same time allowing that they can be "obtained" simultaneously.

Contrary to 3Shape's suggestion that the issue was not argued, Align explicitly argued that its statements in the prosecution history—which 3Shape argued constituted a disclaimer—were specifically focused on the "processing element" of the claims at issue (relating to the determination of the data) in that related prosecution. *See Markman* Tr. at 19:21-25 ("[The statements in prosecution were] really focused on the addition of that processing element and not how the data was gathered, because of course you could gather the color and depth data independently or you could gather it simultaneously."). Consistent with Align's argument, the Court ruled that the data could be "obtained" (or gathered) simultaneously but must be "determined" (or processed) independently. Align is not—as 3Shape contends—seeking to defeat the Court's ruling but instead repeating it word-for-word.

3Shape's request to reconsider the Court's ruling should be rejected. This issue was extensively briefed, argued, and then considered and ruled on by the Court. To the extent that the Court wants to hear re-argument, the language used by the Court in its ruling is consistent with the intrinsic evidence. For example, claim 23 of the '152 patent refers to a "color three-dimensional numerical entity" wherein "the image data used for generating the depth data is also used for the color data of the color three-dimensional numerical entity." Consistent with the Court's ruling, claim 23 allows depth and color data to be obtained from the same image data but nevertheless allows for the possibility that depth and color are determined independently.

The specification of the patents similarly supports the Court's construction. For example, the specification notes that a red laser can be used to capture both depth information and a portion of the color information. *See, e.g.*, '433 patent at 18:41-50. In that embodiment, the depth data and some of the color data are obtained simultaneously, but may still be determined independently.

Finally, the parties should proceed with fact and expert discovery using the Court's construction from the hearing, which is the proper construction. Any issues that arise as to the difference between "determined" and "obtained" can be addressed (if ever) at summary judgment.

#### **CHART SUMMARIZING COURT'S RULINGS DURING MARKMAN HEARING**

For the Court's convenience, especially in light of the change-over of law clerks, attached to this email is a chart summarizing what the parties believe the Court's rulings were during the *Markman* hearing. While the parties agree that the chart accurately reflects the Court's rulings, the parties are not, by submitting this chart, agreeing that the constructions are correct. The chart is meant only as a summary of the Court's rulings in the event it is helpful for the Court.

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Counsel,

The Court provides the following preliminary constructions in advance of your 8/20/2021 9:00 AM Markman hearing. The purpose of preliminary constructions is to streamline the hearing by providing the parties an indication of the Court's current position for each term. Although the parties are, of course, free to argue for their originally proposed construction, it is generally unlikely that the Court will select a party's originally proposed construction over the preliminary construction. As such, the Court believes that making arguments to fine-tune the preliminary construction may be more helpful. The preliminary constructions are not final as the Court may change some those constructions based on the arguments at the hearing.

Of the below terms, please let me know what terms each side would like to argue by 8:00 AM on 8/20/2021. Each side may email their list separately (but please CC the other side) or jointly (please indicate which side, or both, wants to argue each term). Also, by 8:00 AM, please submit any slides the parties (and CC the other side) wish to use at the Markman hearing.

To assist the court reporter (CC-ed), please email them a copy of your slides as soon as possible (it's okay if it's just a draft). When you email them, no need to CC the other side or the Court.

See you tomorrow.

**Align Patents:**

*\*For the Issue A terms below, the Court will hear argument on whether color data and depth data must be obtained independently of one another. Thus, the preliminary constructions for the Issue A terms resolve the secondary disputes, but do not resolve the primary "obtained independently" dispute.*

Term	Align's Proposed Construction	3Shape's Proposed Construction	Court's Preliminary Construction
[A.1] <b>"depth data"</b> '433 patent, claims 1, 2, 12, 13, 16 '519 patent, claims 1, 6, 13, 21, 24 '151 patent, claims 1, 10, 18, 25 '152 patent, claims 1, 9, 16, 23	Plain and ordinary meaning, which is "data related to the three-dimensional properties of the scanned object"	"3D surface points obtained independently of the color data"	Plain and ordinary meaning
[A.2] <b>"scanning system configured to provide depth data of (said/the) portion"</b>	Plain and ordinary meaning	"scanning system configured to obtain depth data independently of the color data of the portion"	[No preliminary construction provided]

'519 patent, claims 1			
[A.3] <b>"imaging system configured to provide (two-dimensional) color image data of (said/the) portion"</b> '519 patent, claims 1, 13, 24	Plain and ordinary meaning	"imaging device that uses colored illumination ( <i>i.e.</i> , white light or sequential red, green, blue illumination) to obtain two-dimensional color image data independently of depth data of the object"	Plain and ordinary meaning
[A.4] <b>"image gathering member to generate depth data of the structure portion"</b> '433 patent, claims 1, 12,	<p>Plain and ordinary meaning, which is "an imaging system with a plane substantially perpendicular to the optical axis" and not subject to § 112 P. 6, but if subject to § 112 P.6:</p> <ul style="list-style-type: none"> <li>• Function: "to generate depth data of the structure portion (corresponding to a two-dimensional reference array substantially orthogonal to depth direction)"</li> </ul> <p>Structure: "scanning system that relies on confocal imaging arrangement, including an illumination source, main optics to measure the depth direction, detection optics such as an image sensor, and a processor" <i>see, e.g.</i>, '433 patent at 3:3-67, 5:3-5, 13:14-23, 14:56-16:52, 24:30-35, Fig. 1, Fig. 4A, Fig. 8, Fig. 11, Fig. 12, Fig. 13</p>	<p>Subject to § 112 P.6</p> <ul style="list-style-type: none"> <li>• Function: "to generate depth data of the structure portion (corresponding to a two-dimensional reference array substantially orthogonal to a depth direction)"</li> </ul> <p>Structure: "scanning system comprising laser(s) coupled to a grating/microlens array, telecentric confocal optics, image sensor, processor to determine the maximum intensity of the light returned from illuminated spots at different positions of the telecentric confocal optics. Does not acquire color data (<i>i.e.</i>, full spectrum of light required to generate color)" <i>see, e.g.</i>, '433 patent, at 3:3-67, 5:3-5, 14:56-16:52, 24:30-35; Fig. 1, Fig. 4A, Fig. 8, Fig. 11, Fig. 12, Fig. 13</p>	<p>Not subject to §112 ¶6.</p> <p>Plain and ordinary meaning.</p>
[A.5] <b>"color data (of the intraoral structure)"</b> '151 patent, claims 1, 18 '152 patent, claims 1, 9, 16, 18, 23, 25 <b>"color image data"</b> '519 patent, claims 1, 6, 13, 24	<b>"color data of the intraoral structure"</b> : Plain and ordinary meaning, but if construction is required: "data that represents the color of the intraoral structure captured by the sensor"	<b>"color data of the intraoral structure"</b> : "data that represents the color of the intraoral structure obtained independently of the depth data" <b>"color image data"</b> : "image data representing the color of the three-	Plain and ordinary meaning

'151 patent, claims 1, 10, 18, 25 '152 patent, claims 9	<b>"color data"</b> : Plain and ordinary meaning <b>"color image data"</b> : Plain and ordinary meaning	dimensional object obtained independently of depth image data"	
[A.6] <b>"two-dimensional image data"</b> '433 patent, claims 12, 13 <b>"two-dimensional (first/second) image data"</b> '433 patent, claims 1, 2	Plain and ordinary meaning	<b>"two-dimensional image data"</b> : "two-dimensional image data used to generate color independently of depth data" <b>Two-Dimensional (First/Second) Image Data</b> : "(first/second) two-dimensional image data used to generate color independently of depth data"	Plain and ordinary meaning
[A.7] <b>"depth image data"</b> '151 patent, claims 1, 10, 18, 25 '152 patent, claim 9	Not indefinite; "the image data used to derive depth data"	Indefinite; if not indefinite: "depth image data obtained independently of color image data"	Plain and ordinary meaning
[B.1] <b>"map the estimated image data to the depth data for the two-dimensional reference array"</b> '433 patent, claim 1	Plain and ordinary meaning	"match estimated color values at X-Y coordinates to substantially the same X-Y coordinates of the depth data"	Plain and ordinary meaning
[B.2] <b>"selectively map the image data to the depth data for the two-dimensional reference array based on the plurality of focal lengths and the depth data such that the resulting associated color of the structure portion is in focus relative to the structure portion for a plurality of distances in the depth direction"</b> '433 patent, claim 12	Plain and ordinary meaning	"selectively match color values at X-Y coordinates to substantially the same X-Y coordinates of the depth data based on the plurality of focal lengths and the depth data such that the entire wavelength composition of color is in focus relative to the structure portion for more than one distance in the depth direction"	Plain and ordinary meaning
[B.3] <b>"processor... configured to associate the depth data with the two-dimensional color image data"</b> '519 patent, claim 1	Plain and ordinary meaning	"processor...configured to match depth data at X-Y coordinates to substantially the same X-Y coordinates of the two-dimensional color image data"	Plain and ordinary meaning

<p>[B.4] <b>“color three-dimensional numerical entity”</b>  ‘151 patent, claims 1, 10, 11, 18, 25 ‘152 patent, claims 1, 9, 23</p>	<p>“numerical entity created by associating coordinates of color data to coordinates of depth data”</p>	<p>“new numerical entity created by matching X-Y coordinates of the color data to substantially the same X-Y coordinates of the independently obtained depth data”</p>	<p>“numerical entity created by associating coordinates of color data to coordinates of depth data”</p>
<p>[C.1] <b>“illumination unit configured to transmit a first array of incident light along a path towards the threedimensional structure”</b>  ‘519 patent, claims 1, 13, 24</p>	<p><b>“illumination unit”</b>: not subject to § 112 ¶ 6, construed as “one or more optical elements that provide or condition light for illumination” If subject to § 112 ¶ 6:</p> <ul style="list-style-type: none"> <li>• Function: “transmit a first array of incident light along a path towards the three-dimensional structure”</li> <li>• Structure: “(1) one or more light emitter(s), semiconductor laser(s), or laser emitter(s) in conjunction with diffraction or refraction optics, grating, microlens array, or an optics expander; or (2) a plurality of light emitters, semiconductor lasers, or laser emitters; or (3) equivalents thereof”  <i>See, e.g., 6:10-14, 15:30-43</i></li> </ul>	<p><b>“illumination unit”</b>: subject to §112 ¶ 6:</p> <ul style="list-style-type: none"> <li>• Function: “transmit a first array of incident light along a path towards a threedimensional structure”</li> <li>• Structure: “laser(s) optically coupled to a grating, microlens array”</li> </ul> <p><b>“array of incident light”</b>: Indefinite. If found not indefinite, “light incident on an object to form an array of spots”</p>	<p>Not subject to §112 ¶6 and not indefinite. Plain and ordinary meaning.</p>
<p>[C.2] <b>“detector (configured) to measure intensity of each of a plurality of returned light”</b>  ‘519 patent, claims 1, 4, 13, 24, 30  <b>“measure intensity”</b>  ‘519 patent, claims 1, 30  <b>“returning light”</b>  ‘151 patent, claims 10, 25</p>	<p><b>“detector (configured) to measure intensity of each of a plurality of returned light”</b>: not indefinite; plain and ordinary meaning; if construction is required: “detector configured to measure intensity of each of a plurality of returned directional projections of light that return along the path and from the threedimensional structure”</p> <p><b>“measure intensity”</b>: “detect intensity of</p>	<p><b>“detector (configured) to measure intensity of each of a plurality of returned light”</b>: indefinite; if found not indefinite: “detector configured to measure intensity of light returned from each illuminated spot that returns along the path and from the three-dimensional structure”</p> <p><b>“measure intensity”</b>: no further construction required. See construction of “detector” limitations above.</p>	<p>Not indefinite; plain and ordinary meaning</p>



	returned light” “ <b>returning light</b> ”: not indefinite; plain and ordinary meaning	“ <b>returning light</b> ”: indefinite; if not indefinite: “light returned from illuminated spots...from the intra-oral structure”	
[C.3] “ <b>light beams</b> ” ’519 patent, claims 20, 21 “ <b>incident light beams</b> ” ’151 patent, claim 18 “ <b>returned light beams</b> ” ’151 patent, claim 13	“ <b>light beams</b> ”: “directional projections of light energy” “ <b>incident light beams</b> ”: “directional projections of light energy propagating along the optical axis illuminating an object” “ <b>returned light beams</b> ”: “light beams returned in response to the incident light beams on the three dimensional structure/dentition”	“ <b>light beams</b> ”: “more than one directional projection of light energy” “ <b>incident light beams</b> ”: “light beams that form illuminated spots on the surface of the object” “ <b>returned light beams</b> ”: “light beams each returned from an illuminated spot”	“ <b>light beams</b> ”: “directional projections of light energy” “ <b>incident light beams</b> ”: “directional projections of light energy propagating along the optical axis illuminating an object” “ <b>returned light beams</b> ”: “light beams returned in response to the incident light beams on the three dimensional structure/dentition”
[D.1] “ <b>focal plane</b> ” ’151 patent, claims 1, 10, 18 ’152 patent, claims 1, 16, 23	“a position where one or more light beams from the optical system are focused”	“X-Y plane parallel to the image sensor”	“a position where one or more light beams from the optical system are focused”
[D.2] “ <b>focusing optics</b> ” ’151 patent, claims 1, 10, 18, 25 ’152 patent, claims 1, 9, 16, 23	Plain and ordinary meaning, which is: “one or more optical components that focus light beams to one or more focal planes”	“optical elements operating telecentrically to define one or more focal surfaces parallel to the image sensor at a position changeable by the optical elements”	Plain and ordinary meaning, which is: “one or more optical components that focus light beams to one or more focal planes”
[E.1] “ <b>two-dimensional reference array substantially orthogonal to a depth direction</b> ” ’433 patent claims 1, 12	“a reference plane substantially 90 degrees to a depth direction”	“array of points in an X-Y plane substantially 90 degrees to a depth direction”	“array of points in an X-Y plane substantially 90 degrees to a depth direction”
[E.2] “ <b>depth data corresponding to a plurality of data points defined on a plane substantially orthogonal to a depth direction</b> ” ’519 patent, claims 1, 13, 24	“depth data corresponding to a plurality of points on a reference plane substantially 90 degrees to a depth direction”	“depth data corresponding to a plurality of points in an X-Y plane substantially 90 degrees to the depth direction”	“depth data corresponding to a plurality of points in an X-Y plane substantially 90 degrees to the depth direction”
[F] “ <b>remove, from the displayed model, a removed surface portion of the model to be</b>	Plain and ordinary meaning	“delete scan data associated with the displayed model to create a removed surface portion	Plain and ordinary meaning

removed according to the user input” '936 patent, claims 1, 17		of the model according to the user input”	
[G.1] “a physically changed portion of the patient’s intraoral cavity” '936 patent, claims 1, 9	Plain and ordinary meaning	“an intraoral portion physically altered by a dental practitioner”	Plain and ordinary meaning
[G.2] “accounting for changes in surface topology when [intraorally] scanning a patient’s teeth for a dental procedure” '609 patent, claims 1, 12, 23	No construction necessary because non-limiting preamble; if preamble is limiting: plain and ordinary meaning	“accounting for changes in surface topology created by a dental practitioner when [intraorally] scanning a patient’s teeth for a dental procedure”	Plain and ordinary meaning
[H.1] “replace [replacing] at least a portion of the [removed] surface portion of the model [...] using the received second scan data [at least a portion of the second scan data]” '936 patent, claims 1, 9, 17	“use the received second scan data instead of at least a portion of the removed surface portion of the model”	“register [registering] the [received] second scan data with a retained portion of the model after deleting the scan data of the removed surface portion”	“register [registering] the [received] second scan data with a retained portion of the model after deleting the scan data of the removed surface portion”
[H.2] “updating [update] the first model by modifying only at least a portion of the surface data [first surface portion]” '609 patent, claims 1, 12, 23	Not indefinite; Align agrees to 3Shape’s proposed construction.	Indefinite under 35 U.S.C. § 112 ¶ 2; if not indefinite: “updating [update] the first model by modifying, within only the demarcated surface data representative of the first surface portion, at least a portion of the surface data”	“updating [update] the first model by modifying, within only the demarcated surface data representative of the first surface portion, at least a portion of the surface data”
[I] “receiving [receive] user input, via the displayed first model, demarcating the surface data representative of the first surface portion and the surface data representative of the second surface portion” '609 patent, claims 1, 12	“receiving user input, via the displayed first model, identifying the surface data representative of the first surface portion and, by implication (i.e. the remaining surface portion of the first scan) or by explicit identification, the surface data representative of the second surface portion”	Plain and ordinary meaning	Plain and ordinary meaning
[J] “determining [determine] a missing portion of the 3D virtual	“determining a portion of the 3D virtual model that is missing a portion of any	“determining [determine] a missing dental structure in the 3D virtual model”	“determining [determine] a missing intraoral

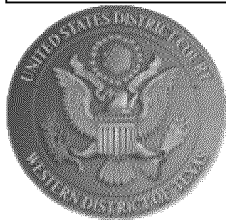
<b>model that are missing a portion of the intraoral structure of the patient”</b> '527 patent, claims 1, 12	target part of the intraoral cavity of the patient”		structure in the 3D virtual model”
[K] <b>“generating [generate] second 3D data”</b> '527 patent, claims 1, 12	“generat[ing] second data representing the intraoral structure of the missing portion of the 3D virtual model by extrapolating the 3D virtual model or interpolating between points in the 3D virtual model” Or “generat[ing] second data representing the intraoral structure of the missing portion of the 3D virtual model by extrapolating the 3D virtual model, interpolating between points in the 3D virtual model, or otherwise based on the 3D virtual model”	“generating second 3D data in any manner, including scanning or based on the 3D virtual model”	“generat[ing] second data representing the intraoral structure of the missing portion of the 3D virtual model by extrapolating the 3D virtual model, interpolating between points in the 3D virtual model, or otherwise based on the 3D virtual model”

### 3Shape Patents:

<b>Term</b>	<b>Align’s Proposed Construction</b>	<b>3Shape’s Proposed Construction</b>	<b>Court’s Preliminary Construction</b>
<b>“correlation measure”</b> '815 patent, claim 33, 40	“a measure of the degree of correlation between (1) a signal derived from the pattern, and (2) light input signal or sensor input signal from the sensors in the camera”	Plain and ordinary meaning	Plain and ordinary meaning
<b>“multichromatic probe light for illumination of the object”</b> '711 patent, claim 1	Plain and ordinary meaning, which is “a probe light with more than one color, or more than one shade of color, at the same time that illuminates the object”	Plain and ordinary meaning, which is “light having more than one color at the same time, that strikes the object”	Plain and ordinary meaning, which is “a probe light with more than one color, or more than one shade of color, at the same time that illuminates the object”
<b>“image pixels / image sensor pixels”</b> '711 patent, passim	Indefinite; if not indefinite: “image pixels”: “pixels on the image that are derived from the image sensor pixels”	Not indefinite; “pixels on the image sensor”	Not indefinite; pixels on the image sensor

	<p>“image sensor pixels”: “pixels on the image sensor”</p>		
<p><b>“data processing system configured to derive surface geometry information for a first set of image pixels within a block of the image sensor pixels from a series of 2D images recorded by the color image sensor”</b> ’711 patent, claim 1</p>	<p>Subject to § 112 ¶ 6:</p> <ul style="list-style-type: none"> <li>• Function: “derive surface geometry information for a first set of image pixels within a block”</li> <li>• Structure: “a processor programmed to record surface geometry of an object that is derived from at least one of the same 2D images as the surface color information”</li> </ul> <p>If not subject to § 112 ¶ 6: “data processing system that derives geometry information for at least one 2D image used to derive color information”</p>	<p>Not subject to § 112 ¶ 6, construed as “data processing system configured to derive surface geometry information for a first set of pixels on the image sensor within a block...” If subject to § 112 ¶ 6:</p> <ul style="list-style-type: none"> <li>• Function: “derive surface geometry information for a first set of pixels on the image sensor within a block...”</li> <li>• Structure: “one or more processors, or one or more processors and computer readable medium; and algorithm(s) for deriving surface geometry for a first set of pixels on the image sensor within a block...”</li> </ul>	<p>Not subject to § 112 ¶ 6, construed according to its plain and ordinary meaning. Surface geometry information does not have to be derived from at least one of the same 2D images as the surface color information.</p>
<p><b>“data processing system further configured to derive surface color information for a second set of image pixels within the block of the image sensor pixels from at least one 2D image recorded by the color image sensor”</b> ’711 patent, claim 1</p>	<p>Subject to § 112 ¶ 6:</p> <ul style="list-style-type: none"> <li>• Function: “derive surface color information for a second set of image pixels within a block”</li> <li>• Structure: “a processor programmed to record color information of an object that is derived from at least one of the same 2D images as the surface</li> </ul>	<p>Not subject to § 112 ¶ 6, construed as: “data processing system further configured to derive surface color information for a second set of pixels on the image sensor within the block...” If subject to § 112 ¶ 6 construction:</p> <ul style="list-style-type: none"> <li>• Function: “derive surface color information for a second set of pixels on the image sensor within the block...”</li> </ul>	<p>Not subject to § 112 ¶ 6, construed according to its plain and ordinary meaning. Surface color information does not have to be derived from at least one of the same 2D images as the surface geometry information.</p>

	<p>geometry information"</p> <p>If not subject to § 112 ¶ 6: "data processing system that derives color information for at least one 2D image used to derive geometry information"</p>	<p>• Structure: "one or more processors, or one or more processors and computer readable medium; and algorithm(s) for deriving surface color information for a second set of pixels on the image sensor within the block..."</p>	
<p>"low weight"</p> <p>'711 patent, claim 24</p>	Indefinite	Plain and ordinary meaning	Plain and ordinary meaning
<p>"cariogenic region of the tooth"</p> <p>'333 patent, claims 1, 3, 20, 21, 38</p>	"region of the tooth that the system detects as having tooth decay from emitted fluorescence"	Plain and ordinary meaning.	Plain and ordinary meaning.
<p>"a second light source"</p> <p>'333 patent, claims 1, 20, 21, 33, 38</p>	"a light source used to excite a fluorescent material of a tooth"	Plain and ordinary meaning.	Plain and ordinary meaning.
<p>"the 3D intraoral scanner is configured such that at least one of the one or more image sensor(s) detects light at the second wavelength, thereby configured to record data for the cariogenic region of the tooth"</p> <p>'333 patent, claims 1, 21</p>	<p>"the 3D intraoral scanner is configured to record data for the cariogenic region of the tooth based on the detection of light by at least one of the one or more image sensors at the same wavelength in which light was emitted from the second light source"</p> <p>or</p> <p>Plain and ordinary meaning</p>	Plain and ordinary meaning, which is "the 3D intraoral scanner is configured such that at least one of the one or more image sensor(s) detects light at least at the second wavelength, thereby configured to record data for the cariogenic region of the tooth"	Plain and ordinary meaning



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